Earthdata Login

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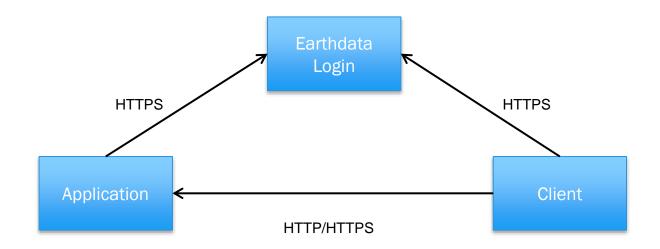
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What Is Earthdata Login

- A key element in helping NASA understand users.

- Allows an application to associate users with unique IDs and user profiles.

- User profile: name, email address, user type, field of study, country.

- Not intended for access control.

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How Does It Work

- Implements OAuth2 protocol
  - Chosen to keep user credentials secure
  - Applications do not need to use HTTPS

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Client Support

- What does a client need to support?
  - Cookies
  - Redirects (HTTP status code 302)
  - Basic auth (HTTP status code 401)
  - HTTPS
- We have successfully tested:
  - Web browsers
  - Curl, wget, netcdf command line tools
  - Custom client tools using Java, Perl, Python, PHP, C#
  - OPeNDAP clients: IDV, Panoply, PyDAP

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Integrating Earthdata Login

- Application must:
  - support session management
  - make https outbound calls
- Successfully integrated applications using:
  - Java, PHP, Perl, Python, Drupal, C
- Web applications, distributed/multi-hosted systems, desktop applications

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Apache URS Authentication Module

- 'Plug and play' module for Apache httpd
  - Download (git clone …)
  - Build/install (apxs …)
  - Configure httpd.conf
- Configure files/directories requiring login
- Integrates with application:
  - Pass user profile information through via environment
- Supports file or cookie based sessions
- Session encryption
- Can be used as proxy (e.g. OPeNDAP servers)
- Configuration driven

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Other Features

- Support for EULA
  – User must acknowledge before using application

- Custom user profile fields

- Applications specific metadata
  – Arbitrary JSON formatted data

- Token sharing

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Earthdata Login API

- HTTP based API
  - Basic user search functions
  - User profile retrieval
  - Application specific metadata updates

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Earthdata Login GUI

- Application management/configuration
  - Application name/description
  - EULA
  - Application image
  - User list export (mailing lists)
  - User search
  - Authentication/authorization metrics

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How does this help you?

- Allows application to track user actions:

```
2.28.132.9 - dataaccesssit [28/Jun/2016:16:40:33 -0400] "GET /FS1/AMSA//AE_Ocean.086/2005.08.12/23EF4BEA-BF15-11E5-9582-
      DEB66FD9F0AA.hdf HTTP/1.1" 200 9579823 "-" "curl/7.19.7"
172.28.132.9 - dataaccesssit [28/Jun/2016:16:40:51 -0400] "GET /FS1/MOOA//MYD29.086/2016.05.11/   MYD29.A2004065.2230.D40554B6-1730-
11E6-BDB7-25E490046BB6.004.2004067205459.hdf.xml HTTP/1.1" 200 7402 "-" "curl/7.19.7"
172.28.132.9 - dataaccesssit [28/Jun/2016:16:41:07 -0400] "GET /FS2/BRWS//Browse.001/2016.06.21/
      BROWSE.MOD10A1.A2004078.h00v09.004.2004083182801.580582BE-3.1.jpg HTTP/1.1" 200 14921 "-" "curl/7.19.7"
172.28.133.17 - dataaccesssit [29/Jun/2016:15:18:55 -0400] "GET /FS1/MOOT//MOD29P1D.086/2016.04.25/
      MOD29P1D.A2004080.h07v09.C359EFF0-0B6E-11E6-93E0-EB5564D39.004.2004083111203.hdf.xml HTTP/1.1" 200 9646 "-" "curl/7.19.7"
172.28.132.9 - dataaccesssit [29/Jun/2016:15:18:57 -0400] "GET /FS5/MOSA//MYD10_L2.086/2014.12.22/ MYD10_L2.A2004066.1420.B31B6106-
8A18-11E4-8CC0-AB86E99FDE2.004.2004068111129.hdf HTTP/1.1" 200 33954119 "-" "curl/7.19.7"
172.28.132.9 - dataaccesssit [29/Jun/2016:15:19:01 -0400] "GET /FS5/MOSA//MYD10_L2.086/2016.05.03/ MYD10_L2.A2004066.0815.2C1D2240-
116A-11E6-A98B-360691046BB.004.2004068094218.hdf.Z HTTP/1.1" 200 33954111 "-" "curl/7.19.7"
172.28.133.17 - dataaccesssit [29/Jun/2016:15:19:40 -0400] "GET /FS2/BRWS//Browse.001/2016.06.06/
      BROWSE.MOD29.A2004080.1315.004.2004082132830.D1D5840A-2.2.jpg HTTP/1.1" 200 128417 "-" "curl/7.19.7"
172.28.132.9 - dataaccesssit [29/Jun/2016:15:19:45 -0400] "GET /FS1/AMSA//AE_Ocean.086/2016.04.13/0CB4B372-0162-11E6-93DC-
      E3746FD9F0AA.hdf.xml HTTP/1.1" 200 6335 "-" "curl/7.19.7"
```

- Roll-up and send logs to EMS
  - Currently done my most SDPS components

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Future Possibilities

- Collaboration/integration with EMS
  - Can Earthdata Login present useful user aggregation information from EMS?

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Questions

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References

- OAuth2:
  - https://oauth.net/2/
- Earthdata Login application integration:
  - https://wiki.earthdata.nasa.gov/display/URSFOUR/Earthdata+Login+Integration
- Earthdata Login client configuration:
  - https://wiki.earthdata.nasa.gov/display/EL/Knowledge+Base
- Apache Module:
  - https://wiki.earthdata.nasa.gov/display/URSFOUR/Apache+URS+Authentication+Module

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